

REVIEWS

Coulter and Nelson's New Manual of Rocky Mountain Botany*

Teaching botanists in the Rocky Mountain region, and in addition a wide circle of people who are interested in knowing the vascular flora, will welcome the "New Manual of Rocky Mountain Botany" by Professor John M. Coulter, of the University of Chicago, and Professor Aven Nelson, of the University of Wyoming. For years there has been no satisfactory manual of the region available. Since Coulter's *Manual of the Rocky Mountain Region* appeared in 1885, botanists have been active in the field, greatly increasing the known species and segregating large genera. Several publications, among these Professor Nelson's *Key to the Rocky Mountain Flora*, dealing inadequately with the spring and early summer flora have appeared at intervals. In 1906 there was published, at the Colorado Agricultural Experiment Station, at Fort Collins, the "Flora of Colorado" by Dr. P. A. Rydberg, which contains analytical keys to the orders, genera, and species but no descriptions of species. It, therefore, has been necessary in order to insure correct identification to consult original descriptions or to submit specimens to the expert.

The new manual is not in any sense a revision of Coulter's *Manual*. Professor Nelson has completely rewritten the book and assumes responsibility for any errors it may contain. He is well qualified for the task, having given in the neighborhood of twenty years of careful study to the flora of the Rocky Mountain region. He has had a large experience in the field; has gathered by his own efforts, and with the aid of his pupils, and by exchange, a splendid herbarium; and has familiarized himself with the original descriptions and checked these by an examination of the plants. No man to-day is more familiar with the vascular plants of the region than is Professor Nelson.

It is a satisfaction to find the book is neither ultra-radical nor strikingly conservative in taxonomy. Freedom from extremes

* Coulter, John M. Revised by Aven Nelson. Pp. 646. American Book Company, New York. 1909. \$2.50.

makes it a very serviceable book. It contains very clear and concise descriptions of 649 genera, 2,733 species, and 186 varieties. Synonyms, numbering 1,788, are inserted with the species descriptions thus increasing the value of the book. The keys to genera and species appear to be accurate and clear so far as they have been tested by the writer.

In priority of names and in segregation, exception is frequently taken to Dr. Rydberg's publications. There is a return to such long used and satisfactory family names as Leguminosae, Gramineae, Cyperaceae, Umbelliferae, Cruciferae, and Compositae. *Pinus*, *Apinus*, and *Caryopitys* are included in the single genus *Pinus*. The number of species of *Quercus* has been somewhat reduced. In this genus distinctions have at times been made of which the characters ascribed to separate species may sometimes be found to occur on a single tree or shrub. This reduction should meet with general approval, as will the contraction of *Gutierrezia* into five seemingly well-defined species. Among the Gramineae *Muhlenbergia* contains seven species and one variety, and *Poa* is reduced to twenty-five species. *Astragalus* has again come to its own, the seventeen genera of Dr. Rydberg are brought together into this single genus. And yet the reduction in the number of species within genera is not the policy throughout the manual. When species and varieties are clearly defined they are given a space. Thus there are described twenty-four species of *Mertensia* and fifty-four species and varieties of *Pentstemon*. Many other examples might be enumerated.

The best test of the general value of such a manual will be its usefulness to others than the trained systematist. The authors are to be congratulated on having given us a book with workable keys, clear descriptions, and at the same time to have included practically all well-defined species.

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